

**REMARKS**

Claims 1-9 are pending. The Office Action dated April 13, 2004 has been carefully considered. The above amendments and the following remarks are presented in a sincere attempt to place this application in condition for allowance. Claims 1-9 have been amended in this Response. The Examiner states that Claim 6 and 9 would be allowable over the prior art of record if rewritten in independent form, for which Applicant thanks the Examiner. Reconsideration and allowance are respectfully requested in light of the foregoing amendments and the following remarks.

Claim 6 stands as objected to as being dependent on a rejected base claim. Applicant has amended Claim 6 to include all limitations of Claim 5, verbatim. Accordingly, Applicant respectfully requests that the objection of amended Claim 6 be withdrawn and that Claim 6 be allowed.

Claim 9 stands as objected to as being dependent on a rejected base claim. Applicant has amended Claim 9 to include all limitations of Claim 8, verbatim. Accordingly, Applicant respectfully requests that the objection of amended Claim 9 be withdrawn and that Claim 9 be allowed.

Claim 1 stands rejected under 35 U.S.C. §102(b) in view of U.S. Patent No. 5,418,486 by Callahan ("Callahan"). Insofar as it may be applied against the Claim, this rejection is overcome.

Rejected independent Claim 1 as now amended more particularly recites one of the distinguishing characteristics of the present invention, namely, "applying one of the pair of pulse width modulated signals both to a set input of a *plurality of* latch circuits and to a delay circuit; applying the other of the pair of pulse width modulated signals to a reset input of the *plurality of* latch circuits, wherein both of the pair of pulse width modulated signals have substantially constant and equidistant start transition times; [and] obtaining a constant width drive signal from the output

of *at least one* latch circuit of *the plurality of latch circuits.*” (Emphasis added.) Support for this Amendment can be found, among other places, FIGURES 1 and 2 of the original Application.

Callahan does not suggest, teach, or disclose a utilizing a plurality of latch circuits. Specifically, Callahan utilizes a single R/S flip-flop. Callahan describes a filtration circuit to suppress noise with two outputs, Q and Qbar of the R/S flip-flop. The present invention of Claim 1, though, describes a circuit with multiple latches and multiple outputs. Specifically, the circuit in the present invention of Claim 1 is designed to be capable of driving certain devices utilizing multiple outputs and multiple latches, such as DC-to-DC converters, which the Callahan’s circuit is not designed for. By utilizing the multiple outputs, as the present invention of Claim 1 recites, better control can be achieved for power conversion devices, such as DC-to-DC converters utilizing full wave bridges.

In view of the foregoing, it is apparent that the cited reference does not disclose, teach or suggest the unique combination now recited in amended Claim 1. Applicant therefore submits that amended Claim 1 is both clearly and precisely distinguishable over the cited reference in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicant respectfully requests that the rejection of Claim 1 under 35 U.S.C. § 102(b) in view of Callahan be withdrawn and that Claim 1 be allowed.

Claim 2 stands rejected under 35 U.S.C. §102(b) in view of Callahan. Insofar as it may be applied against the Claim, this rejection is overcome.

Applicant respectfully contends that the rejection of Claim 2 is overcome for at least some of the reasons that the rejection of Claim 1 as amended is overcome. These reasons include Callahan not disclosing, teaching, or suggesting “a *plurality of* toggle circuits, connected to said first and second control signal supplying means, *at least one* toggle circuit of *the plurality of* toggle

*circuits* supplying a first output drive signal level upon detecting a given characteristic of a first pulse width modulated control signal received from said first supplying means and supplying a second output drive signal level upon detecting said given characteristic of a second pulse width modulated control signal received from said second supplying means, whereby substantially symmetrical first and second output drive signals are generated from said *at least one* toggle circuit *of the plurality of toggle circuits.*” (Emphasis added.)

In view of the foregoing, it is apparent that the cited reference does not disclose, teach or suggest the unique combination now recited in amended Claim 2. Applicant therefore submits that amended Claim 2 is both clearly and precisely distinguishable over the cited reference in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicant respectfully requests that the rejection of Claim 2 under 35 U.S.C. § 102(b) in view of Callahan be withdrawn and that Claim 2 be allowed.

Claim 3 stands rejected under 35 U.S.C. §102(b) in view of Callahan. Insofar as it may be applied against the Claim, this rejection is overcome.

Applicant respectfully contends that the rejection of Claim 3 is overcome for at least some of the reasons that the rejection of Claim 1 as amended is overcome. These reasons include Callahan not disclosing, teaching, or suggesting “applying one of the pair of first pulse width modulated signals to a set input of a *plurality of* latch circuits as well as to a turn-on delay circuit wherein the turn-on delay is such that an output voltage transition of the turn-on delay circuit coincides with an output voltage transition of the latch circuit; applying the other of the pair of first pulse width modulated signals to a reset input of the *plurality of* latch circuits; [and] obtaining a constant pulse width drive signal from the output of *at least one* latch circuit *of the plurality of latch circuits.*” (Emphasis added.)

In view of the foregoing, it is apparent that the cited reference does not disclose, teach or suggest the unique combination now recited in amended Claim 3. Applicant therefore submits that amended Claim 3 is both clearly and precisely distinguishable over the cited reference in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicant respectfully requests that the rejection of Claim 3 under 35 U.S.C. § 102(b) in view of Callahan be withdrawn and that Claim 3 be allowed.

Claim 4 stands rejected under 35 U.S.C. §102(b) in view of Callahan. Insofar as it may be applied against the Claim, this rejection is overcome.

Applicant respectfully contends that the rejection of Claim 4 is overcome for at least some of the reasons that the rejection of Claim 1 as amended is overcome. These reasons include Callahan not disclosing, teaching, or suggesting “applying one of the pair of first pulse width modulated signals to a *plurality of* toggle circuits as well as to a delayed turn-on drive circuit wherein the turn-on delay is such that an output voltage transition of the delayed turn-on circuit coincides with an output voltage transition of *at least one* toggle circuit *of the plurality of toggle circuits*; applying the other of the pair of first pulse width modulated signals to said *plurality of* toggle circuits; [and] obtaining a symmetrical drive signal from the output of said *at least one* toggle circuit *of the plurality of toggle circuits*.” (Emphasis added.)

In view of the foregoing, it is apparent that the cited reference does not disclose, teach or suggest the unique combination now recited in amended Claim 4. Applicant therefore submits that amended Claim 4 is both clearly and precisely distinguishable over the cited reference in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicant respectfully requests that the rejection of Claim 4 under 35 U.S.C. § 102(b) in view of Callahan be withdrawn and that Claim 4 be allowed.

Claim 5 stands rejected under 35 U.S.C. §102(b) in view of Callahan. Insofar as it may be applied against the Claim, this rejection is overcome.

Applicant respectfully contends that the rejection of Claim 5 is overcome for at least some of the reasons that the rejection of Claim 1 as amended is overcome. These reasons include Callahan not disclosing, teaching, or suggesting “applying both of a pair of pulse width modulated control signals to a *plurality of* first drive circuits; [and] toggling *at least one* first drive circuit between predetermined output drive signal voltage levels upon detection of a given transition characteristic of each of the pair of pulse width modulated input control signals.” (Emphasis added.)

In view of the foregoing, it is apparent that the cited reference does not disclose, teach or suggest the unique combination now recited in amended Claim 5. Applicant therefore submits that amended Claim 5 is both clearly and precisely distinguishable over the cited reference in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicant respectfully requests that the rejection of Claim 5 under 35 U.S.C. § 102(b) in view of Callahan be withdrawn and that Claim 5 be allowed.

Claim 7 stands rejected under 35 U.S.C. §102(b) in view of Callahan. Insofar as it may be applied against the Claim, this rejection is overcome.

Applicant respectfully contends that the rejection of Claim 7 is overcome for at least some of the reasons that the rejection of Claim 1 as amended is overcome. These reasons include Callahan not disclosing, teaching, or suggesting “a *plurality of* latch circuits, connected to said first and second signal supplying means, the *plurality of* latch circuits changing states upon detection of a given characteristic of received pulse width modulated signals at set and reset inputs thereof.” (Emphasis added.)

In view of the foregoing, it is apparent that the cited reference does not disclose, teach or suggest the unique combination now recited in amended Claim 7. Applicant therefore submits that amended Claim 7 is both clearly and precisely distinguishable over the cited reference in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicant respectfully requests that the rejection of Claim 7 under 35 U.S.C. § 102(b) in view of Callahan be withdrawn and that Claim 7 be allowed.

Claim 8 stands rejected under 35 U.S.C. §102(b) in view of Callahan. Insofar as it may be applied against the Claim, this rejection is overcome.

Applicant respectfully contends that the rejection of Claim 8 is overcome for at least some of the reasons that the rejection of Claim 1 as amended is overcome. These reasons include Callahan not disclosing, teaching, or suggesting “a *plurality of* toggle circuits, connected to said first and second signal supplying means, the *plurality of* toggle circuits toggling between first output drive signal states upon detection of a given characteristic of received pulse width modulated signals.” (Emphasis added.)

In view of the foregoing, it is apparent that the cited reference does not disclose, teach or suggest the unique combination now recited in amended Claim 8. Applicant therefore submits that amended Claim 8 is both clearly and precisely distinguishable over the cited reference in a patentable sense, and is therefore allowable over this reference and the remaining references of record. Accordingly, Applicant respectfully requests that the rejection of Claim 8 under 35 U.S.C. § 102(b) in view of Callahan be withdrawn and that Claim 8 be allowed.


Applicant has now made an earnest attempt to place this application in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully request full allowance of Claims 1 through 9.

Applicant requests an extension of time for making this reply, and encloses a check in the amount of \$490.00 for the required fee. Applicant does not believe that any other fees are due; however, in the event that any fees are due, the Commissioner is hereby authorized to charge any required fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 50-0605 of Carr LLP.

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the number listed below.

Respectfully submitted,

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